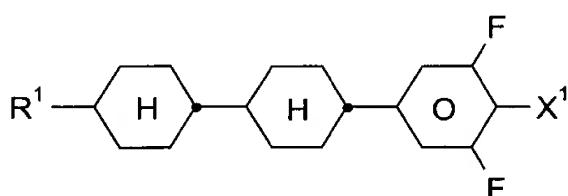


## **Patent Claims**

1. A liquid-crystalline medium of positive dielectric anisotropy, which comprises one or more compounds of the formula I

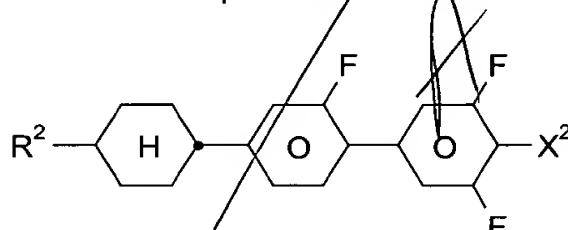


in which

$R^1$  is an alkyl or alkenyl radical having 1 or 2 to 7 carbon atoms respectively, and

$x^1$  is  $\text{F}_2\text{OCF}_3$  or  $\text{OCF}_2\text{F}_2$ ?

one or more compounds of the formula II

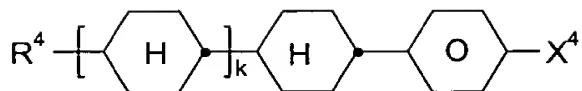


in which

$R^2$  is an alkyl or alkenyl radical having 1 or 2 to 7 carbon atoms respectively, and

$X^2$  is F,  $OCF_3$  or  $OCHF_2$ ; and

one or more compound(s) of the formula IV



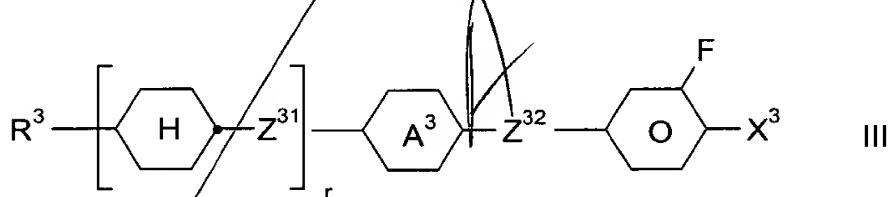
in which

$\text{R}^4$  is an alkyl or alkenyl radical having 1 or 2 to 7 carbon atoms respectively,

$\text{X}^4$  is F, Cl,  $\text{OCF}_3$  or  $\text{OCHF}_2$ , and

$k$  is 0 or 1.

2. The medium according to Claim 1, which further comprises one or more compounds of the formula III

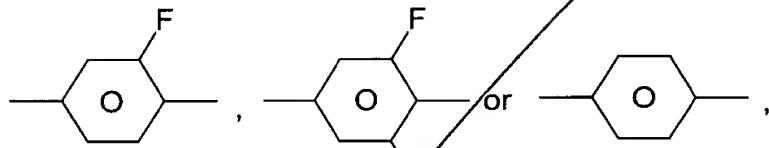
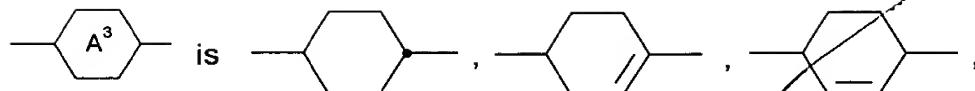


in which

$\text{R}^3$  is an alkyl or alkenyl radical having 1 or 2 to 7 carbon atoms respectively,

$\text{Z}^{32}$  and, if present,  $\text{Z}^{31}$

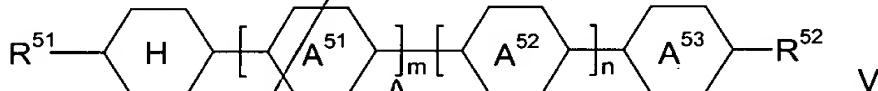
are each, independently of one another,  $-\text{CH}_2\text{CH}_2-$ ,  $-\text{CH}=\text{CH}-$  or a single bond,



$X^3$  is F,  $OCF_3$  or  $OCHF_2$ , and

$r$  is 0 or 1.

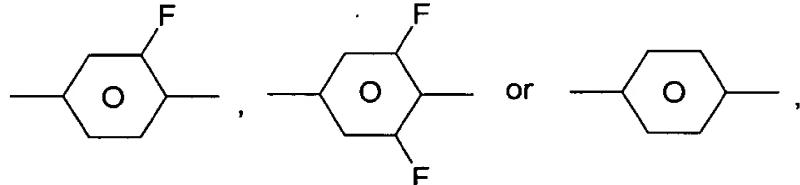
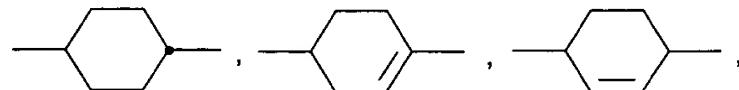
3. A medium according to Claim 1, which further comprises one or more compounds of the formula V



in which



are each, independently of one another,



10

15

5             $R^{51}$  and  $R^{52}$  are each, independently of one another, an alkyl, alkoxy or alkenyl radical having 1 or 2 to 7 carbon atoms respectively, and

10            n and m are each, independently of one another, 0 or 1.

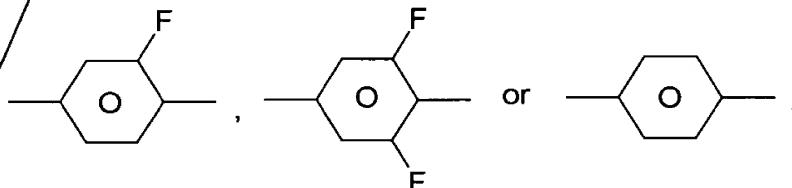
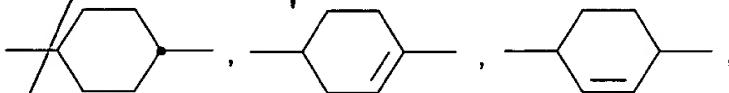
15            4. A medium according to Claim 2, which further comprises one or more compounds of the formula V



20            in which



25            are each, independently of one another,



30             $R^{51}$  and  $R^{52}$  are each, independently of one another, an alkyl, alkoxy or alkenyl radical having 1 or 2 to 7 carbon atoms respectively, and

35            n and m are each, independently of one another, 0 or 1.

5 5. A medium according to Claim 1, wherein the proportion of compounds of the formula I in the medium as a whole is at least 5% by weight.

10 6. A medium according to Claim 4, wherein the proportion of compounds of the formulae II to V together in the medium as a whole is from 40% to 90% by weight.

15 7. A multibottle liquid-crystal system which comprises a medium according to claim 1.

20 8. An electro-optical device which comprises a liquid-crystalline medium of claim 1.

25 9. A medium according to claim 4, which consists essentially of compounds of the formulae I to V.

30 10. A medium according to claim 1, which exhibits a nematic phase at least down to  $-20^{\circ}\text{C}$  and at least above  $75^{\circ}\text{C}$ , a birefringence value of  $\leq 0.090$  or  $\geq 0.100$ , and a rotational viscosity,  $\gamma_1$  at  $20^{\circ}\text{C}$ , of 160mPa·s.

11. A medium according to claim 4 which comprises a concentration of 3-65% compounds of the formula I, 3-40% of compounds of the formula II, 2-50% of compounds of the formula III, 10-50% of compounds of the formula IV and 0-30% of compounds of the formula V.  
*not optional*

12. A medium according to claim 4, which comprises more than 50% of compounds of the formula I to V.

13. A medium according to claim 4 which comprises more than 90% of compounds of the formula I to V.

14. A medium according to claim 2, which consists essentially of compounds of the formula I to IV.

15. A medium according to claim 1, wherein, in formula IV,  $X^4$  is F or  $OCF_3$ .

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